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(56) Documents Cited: JP 20000279365 A JP 2000070104 A US 5959632 A US 4617208 A INTERFACE EUROPE LTD. HEUGA 725 PHOENIX / 726 HAWK, PUBLICATION NUMBER 6075628 7/2001 INTERFACE EUROPE LTD. HEUGA 345 UNIVERSE, PUBLICATION NUMBER 3634528 1/99		(74) Agent and/or Address for Service: Urquhart-Dykes & Lord Midsummer House, 413 Midsummer Boulevard, CENTRAL MILTON KEYNES, MK9 3BN, United Kingdom
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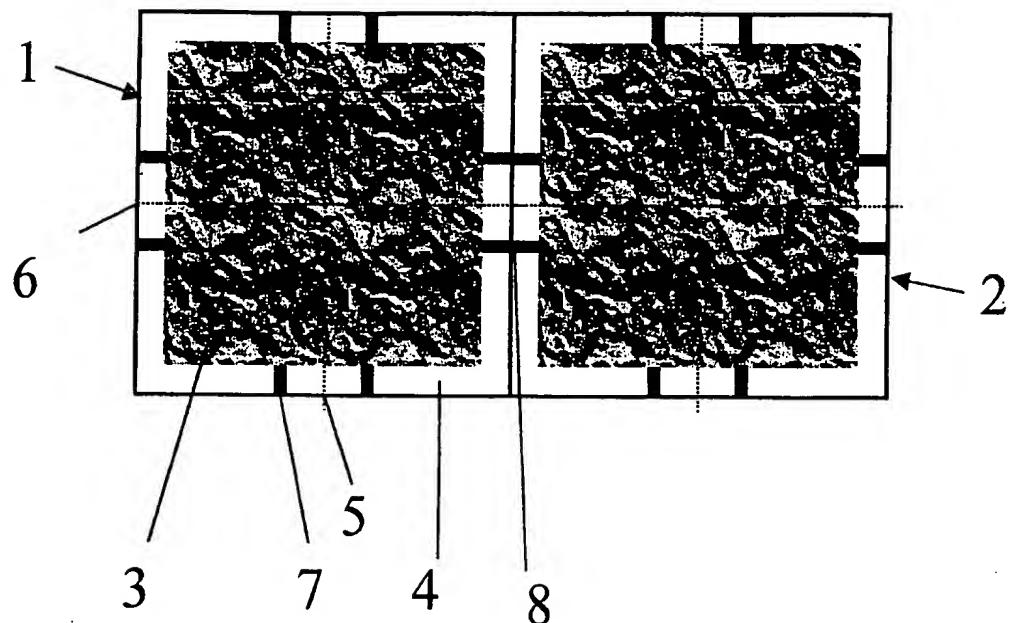


Fig 1

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OMNIDIRECTIONAL CARPET TILE

This invention relates to carpet tiles, particularly to omnidirectional carpet tiles, which can be laid and re-laid without regard to their orientation.

Carpet tiles are a convenient way to cover floors in domestic, commercial and public buildings. Conventionally the tile has a pile direction that is set into the pile by the nature of the carpet tile face fabric formation process, for example by a heat setting process. The directionality of the tile is often reinforced by the pattern applied to the tile face.

Carpet tiles are conventionally installed either monolithic, in which the pile direction of each tile lies the same way, or checkerboard in which the pile directions of adjacent tiles are at right angles.

Many modern offices are carpeted with tiles that are laid over raised access floors. Access to the under floor area involves removal of the carpet, removal of the floor panels, and subsequent replacement of both floor panels and carpet.

The person re-installing the carpet is frequently not trained in proper installation techniques, and usually the carpet is re-installed with random pile direction.

Modern pattern design is often of an abstract or complex nature. Particularly interesting patterns can now be generated using computer design techniques. These patterns are themselves 'omnidirectional'. That is they can, and should, be laid in various alignments. A problem with this is that for some pattern types the pile direction is visible and clearly shows that the tiles have not been laid in a single orientation. This unpleasant appearance is a limitation on the use of omnidirectional type patterning.

According to the present invention there is provided a carpet tile having an omnidirectional pile and a border area having an omnidirectional pattern that is substantially identical on each edge of the tile and that is substantially symmetrical about the centre line of each edge.

This construction provides the advantages that the full patterning effect can be achieved with a wide variety of base carpets and without differences in pile orientation showing during use or after cleaning with a vacuum cleaner.

In this invention, the base carpet tile has substantially no pile direction and has a pattern that is omnidirectional. This allows the product to be installed with random tile orientation, whilst maintaining a uniform appearance.

Pattern can be made by any method, for example dye-injection patterning, tufting or weaving
5 with dyed yarns.

Other advantages of the present invention are:

Use of the omnidirectional patterns allows two or more carpet tile designs of different scale to be co-installed without a definite boundary between the designs. Pattern repeats are eliminated and photo-realistic images are not disrupted by modular format.

10 A random pile orientation of the type taught in US 4 617 208 may be used, although the person skilled in the art will appreciate that the invention also encompasses other means to achieve non-directional or omnidirectional pile.

A typical omnidirectional pattern is taught in US 5 959 632. Again the person skilled in the art will appreciate that many other types of omnidirectional pattern could also be utilised in
15 the present invention.

The invention will now be described by way of example only and with reference to figure 1, which is a plan schematic view of two adjoining omnidirectional pile carpet tiles with an omnidirectional pattern created according to the present invention.

20 Referring to figure 1 a carpet tile 1 is shown in abutting relationship to a second identical carpet tile 2. It will be appreciated that although the invention is described with reference to two identical carpet tiles an advantage of this invention is that it gives the flexibility to fit together non-identical but complementary tiles as well as to turn individual tiles through angles of 90, 180 or 270 degrees. Each of the carpet tiles 1,2 is made from pile that is omnidirectional. By that it is intended to mean that the tile cannot be distinguished from its
25 neighbour by reference to a pile direction after it has been turned.

Each tile 1,2 has a central patterned area 3, which can be almost any graphical design chosen without regard for the need for omnidirectionality. Around this central patterned area there is then defined a border area 4. The width of the border area 4 may vary according to the

nature of the pattern in area 3 but is typically about 5 to 10mm. The tiles 1,2 are typically 400mm square or larger.

Orthogonal lines of symmetry 5,6 are shown on the tile 1. The border area 4 is created to be identical on each of the four sides of the tile 1 and to be substantially symmetrical about the lines of symmetry 5,6. The need for each border area 4 to be identical arises from the need to be able to lay the tile 1 any way possible and the need for the symmetry arises from the need to fit the two tiles 1,2 together. The symmetrical parts 7 of the edge pattern line up as shown at point 8.

Claims

1. A carpet tile having an omnidirectional pile and a border area having an omnidirectional pattern that is substantially identical on each edge of the tile and that is substantially symmetrical about the centre line of each edge.
2. A carpet tile according to claim 1, wherein the omnidirectional pattern has been applied by dye-injection patterning, tufting or weaving with dyed yarns.
3. A carpet tile according to claim 1 or 2, wherein the omnidirectional pile is created using the method according to US 4 617 208.